FORM PTO-1083

In RE application of   K. SOEJIMA et al.

Serial No.: 10/698,453

Filed: November 3, 2003

PATENT

Case Docket No.   NIT-402

Group Art Unit: 2188

Examiner: M. PADAMANABHAN

For: DATA PROCESSING METHOD WITH RESTRICTED DATA ARRANGEMENT, STORAGE
AREA MANAGEMENT METHOD AND DATA PROCESSING SYSTEM

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Transmitted herewith is an Amendment in the above-identfied application.

☐   Small entity status of this application under 37 CFR 1.9 and 1.27 has been established by a verified
statement previously submitted.

☐   A verified statement to establish small entity status under 37 CFR 1.9 and 1.27 is enclosed.

☒   No additional fee is required.

The fee has been calculated as shown below:

(COL. 1)		(COL. 2)	(COL. 3)	SMALL ENTITY		OR	OTHER THAN A SMALL ENTITY	
	Claims Remaining After Amendment	Highest No. Previously Paid For	Present Extra	Rate	Additional Fee		Rate	Additional Fee
Total	• 22	Minus •• 22	= 0	x 9	$		x 18	$ 0
Indep.	• 4	Minus ••• 4	= 0	x 42	$		x 84	$ 0
☐ First Presentation of Multiple Dependent Claims				+ 140	$		+ 280	$ 0
				Total	$	OR	Total	$ 0

•   If the entry in Col. 1 is less than the entry in Col. 2, write '0' in Col. 3.
••   If the 'Highest Number Previously Paid For' IN THIS SPACE is less than 20, write '20' in this space.
•••   If the 'Highest Number Previously Paid For' IN THIS SPACE is less than 3, write '3' in this space.
The 'Highest Number Previously Paid For' (Total or Independent) is the highest number found from the equivalent box in
Col. 1 of a prior Amendment or the number of claims originally filed.

☐   Please charge my Deposit Account No. 50-1417 in the amount of $_____.

☐   A check in the amount of $_____ is attached in payment of:
_____.

☒   The Commissioner is hereby authorized to charge payment of the following fees associated with this communication
or credit any overpayment to Deposit Account No. 50-1417.

   ☒   Any filing fees under 37 CFR 1.16 for the presentation of extra claims.

   ☒   Any patent application processing fees under 37 CFR 1.17.

   ☒   Any Extension of Time fees that are necessary, which are hereby requested if necessary.

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Date: May 5, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

K. SOEJIMA, et al.

Serial No. 10/698,453   Group Art Unit: 2188

Filed: November 3, 2003   Examiner: M. PADMANABHAN

For: DATA PROCESSING METHOD WITH RESTRICTED DATA ARRANGEMENT,
       STORAGE AREA MANAGEMENT METHOD, AND
       DATA PROCESSING SYSTEM

RESUBMITTED PETITION TO MAKE SPECIAL
UNDER 37 CFR §1.102(d) (MPEP §708.02(VIII))

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450   May 5, 2005

Sir:

In response to the Decision on Petition to Make Special

mailed March 9, 2005, dismissing the Petition to Make Special

filed November 18, 2004, the Applicants re-petition.

The Applicants have prepared this Resubmitted Petition in

order to satisfy the requirements of 37 C.F.R. §1.102(d) and

MPEP §708.02 (VIII), and to address the deficiencies alleged

in the Decision noted above (namely, to list and discuss only

those documents deemed most closely related to the claimed

invention, and to ensure that the discussion of the documents

is directed to how the language of each independent claim is

specifically distinguishable and patentable). With regard to

the former deficiency, those documents not deemed most closely

related to the claimed invention have been omitted from this Resubmitted Petition. With regard to the latter deficiency, the Applicants have made an effort to refer to specific claim language in accordance with the requirement, while attempting to avoid a wholesale restatement of the independent claims. Nevertheless, to achieve the required specificity, and due to the relative lack of correspondence between the claimed structure/functions and the listed disclosures, substantial restatement of the claims could not be entirely avoided.

In accordance with the requirements set forth in Manual of Patent Examining Procedure §708.02(VIII), the Applicants believe that all claims are directed to a single invention. If the Office determines that all claims are not directed to a single invention, Applicants will make an election without traverse as a prerequisite to the grant of special status.

Further, a pre-examination search has been conducted in the following areas: Class 707, subclasses 100, 203, and 205; Class 709, subclasses 219, 223, and 225; and Class 711, subclasses 153, 162, and 209. A key word search was also performed on the USPTO systems EAST and WEST.

Of the documents reviewed during the search, those deemed to be most closely related to the subject matter encompassed by the claims are listed below. The claimed subject matter is

believed to be patentable over the teachings of these
documents for the reasons set forth. One copy of each of
these documents accompanied the Petition filed November 18,
2004.

Documents developed by the pre-examination search

U.S. Patents

5,394,539	Neuhard, et al.
6,034,832	Ichimura, et al.
6,292,198	Matsuda, et al.
6,292,874	Barnett
6,578,039	Kawamura

U.S. Patent Application Publications

2003/0028737	Kaiya, et al.

Neuhard, et al., US 5,394,539 ("Neuhard") shows a data processing system for rapid data copying using reassigned backing pages, including virtual addressing capability and storage management to associate virtual storage locations with real storage by accessing page tables to determine the locations of "backed" virtual storage pages. Neuhard also shows a real storage manager that accepts requests to copy ranges of virtual storage from one virtual storage range to another.

However, Neuhard does not relate to assuring the security of copying data from a source to a destination based on defining range information for the data and a possible data arrangement range for the destination storage. More particularly, Neuhard does not define a range (a "possible data arrangement range") in which data can be arranged, or range information to judge whether or not data to be stored can be arranged in a storage area, as recited in claim 1. Necessarily, then, Neuhard does not judge whether or not a defined possible data arrangement range is within the range indicated by defined range information, or output whether or not the defined range is within the range indicated by the range information, all as required by claim 1.

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With reference to claim 11, Neuhard does not disclose a
data processing system that includes a first storage area for
which a possible data arrangement range of data stored therein
is defined, and a second storage area for which range
information that is to be judged for storing data is defined,
wherein the data processing system designates the first and
second storage areas and judges whether or not the possible
data arrangement range is within the range indicated by the
range information. Consequently, Neuhard also does not teach
a data processing system that outputs whether or not a
possible data arrangement range is within a range indicated by
the range information, as required by claim 11.

In addition, Neuhard does not teach a storage device (as
opposed to the data processing system of claim 11) that
includes a first storage area for which the storage device
defines a possible data arrangement range of data stored
therein, and a second storage area for which the storage
device defines range information that is to be judged for
storing data, wherein the storage device designates the first
and second storage areas and judges whether or not the
possible data arrangement range is within the range indicated
by said range information, and wherein the storage device
outputs whether or not the possible data arrangement range is

within the range indicated by the range information, as required by claim 19.

Finally, with reference to claim 21, Neuhard does not disclose a data processing system having a source storage device including a copy-source storage area and a destination storage device including a copy-destination storage area, wherein the destination storage device transmits volume range information for the copy-destination storage area to the source storage device, and the source storage device judges whether or not the range indicated by possible data arrangement range information for the data in the copy-source storage area is within the range indicated by the volume range information. Further, Neuhard does not disclose that the source storage device transmits copy data to the destination storage device if the range indicated by the volume range information is within the range indicated by the possible data arrangement range information, as required by claim 21.

Ichimura, et al., US 6,034,832 ("Ichimura") shows a recording and reproducing apparatus in which recording and reproducing operations are controlled on the basis of digital copy management data (CMD). Ichimura shows a system wherein CMD for managing allowance or "unallowance" (i.e., prohibition) of copies on a recording medium are recorded, and

a time restriction condition, a geographical area limiting

condition, a condition for restricting a copy mode, etc. are

managed on the basis of the recorded CMD. When data are

copied, the CMD are recorded together with the main data.

However, Ichimura does not teach the claimed definition

of range information for a storage and possible data

arrangement range for data to be copied, wherein a judgment is

made as to whether the data can be copied based on the range

information and possible data arrangement range. More

particularly, Ichimura does not define a range in which data

can be arranged, or range information to judge whether or not

data to be stored can be arranged in a storage area. Further,

Ichimura does not judge whether or not a defined range of

possible data arrangement is within a defined range for a

storage, or output the judgment result, all as required by

claim 1.

Moreover, with reference to claim 11, Ichimura does not

disclose a data processing system that includes a first

storage area for which a possible data arrangement range of

data stored therein is defined, and a second storage area for

which range information that is to be judged for storing data

is defined. Ichimura also does not disclose a data processing

system that designates the first and second storage areas or

that judges whether or not the possible data arrangement range is within the range indicated by the range information, wherein the data processing system outputs whether or not the possible data arrangement range is within the range indicated by the range information, as required by claim 11.

In addition, Ichimura does not teach a storage device that includes a first storage area for which the storage device defines a possible data arrangement range of data stored therein, and a second storage area for which the storage device defines range information that is to be judged for storing data, wherein the storage device designates the first and second storage areas and judges whether or not the possible data arrangement range is within the range indicated by said range information, and wherein the storage device outputs whether or not the possible data arrangement range is within the range indicated by the range information, as required by claim 19.

Finally, Ichimura does not disclose a data processing system having a source storage device including a copy-source storage area and a destination storage device including a copy-destination storage area, and having a memory storing possible data arrangement range information for data stored in the copy-source storage area and volume range information for

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the copy-destination storage area, as claimed in claim 21.

Necessarily, then, Ichimura does not show a destination

storage device that transmits volume range information to a

source storage device, wherein the source storage device

judges whether or not the range indicated by a possible data

arrangement range information for the data in the copy-source

storage area is within the range indicated by the volume range

information. Further, Ichimura does not disclose that the

source storage device transmits copy data to the destination

storage device if the range indicated by the volume range

information is within the range indicated by the possible data

arrangement range information, as required by claim 21.

Matsuda, et al., US 6,292,198 ("Matsuda") shows an

information processing method and apparatus, and information

providing medium data for specifying a moving range of an

object stored in a storage device, having a generated position

to a position in the specified moving range and moving the

object to a corrected position.

However, Matsuda does not relate to copying data from a

source to a destination, with a judgment as to whether the

data can be copied based on range information of the

destination storage and a possible data arrangement range of

the data. More particularly, Matsuda does not define a range

in which data can be arranged, define range information to judge whether or not data to be stored can be arranged in a storage area, judge whether or not the defined range is within the range indicated by the defined range information, or output whether or not the defined range is within the range indicated by the range information, all as required by claim 1.

Further, Matsuda does not disclose a data processing system that includes a first storage area for which a possible data arrangement range of data stored therein is defined, and a second storage area for which range information that is to be judged for storing data is defined, wherein the data processing system designates the first and second storage areas and judges whether or not the possible data arrangement range is within the range indicated by the range information, and wherein the data processing system outputs whether or not the possible data arrangement range is within the range indicated by the range information, as required by claim 11.

In addition, Matsuda does not teach a storage device that includes a first storage area for which the storage device defines a possible data arrangement range of data stored therein, and a second storage area for which the storage device defines range information that is to be judged for

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storing data, wherein the storage device designates the first
and second storage areas and judges whether or not the
possible data arrangement range is within the range indicated
by said range information, and wherein the storage device
outputs whether or not the possible data arrangement range is
within the range indicated by the range information, as
required by claim 19.

Matsuda also does not disclose a data processing system
having a source storage device including a copy-source storage
area and a destination storage device including a copy-
destination storage area, and having a memory storing possible
data arrangement range information for data stored in the
copy-source storage area and volume range information for the
copy-destination storage area, wherein the destination storage
device transmits the volume range information to the source
storage device, and the source storage device judges whether
or not the range indicated by the possible data arrangement
range information for the data in the copy-source storage area
is within the range indicated by the volume range information
by referring to the possible data arrangement range
information stored in the memory. Further, Matsuda does not
disclose that the source storage device transmits copy data to
the destination storage device if the range indicated by the

volume range information is within the range indicated by the
possible data arrangement range information, as required by
claim 21.

Barnett, US 6,292,874 ("Barnett") teaches a memory
management system for partitioning homogeneous memory and
restricting access of applications to predetermined memory
ranges mapped to the applications.

However, Barnett does not suggest that access is
restricted based on range information of the storage and a
possible data arrangement range of the data to be copied.
More particularly, Barnett does not define a range in which
data can be arranged, define range information to judge
whether or not data to be stored can be arranged in a storage
area, judge whether or not the defined range is within the
range indicated by the defined range information, or output
whether or not the defined range is within the range indicated
by the range information, all as required by claim 1.

Further, Barnett does not disclose a data processing
system that includes a first storage area for which a possible
data arrangement range of data stored therein is defined, and
a second storage area for which range information that is to
be judged for storing data is defined, wherein the data
processing system designates the first and second storage

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areas and judges whether or not the possible data arrangement
range is within the range indicated by the range information,
and wherein the data processing system outputs whether or not
the possible data arrangement range is within the range
indicated by the range information, as required by claim 11.

In addition, Barnett does not teach a storage device that
includes a first storage area for which the storage device
defines a possible data arrangement range of data stored
therein, and a second storage area for which the storage
device defines range information that is to be judged for
storing data, wherein the storage device designates the first
and second storage areas and judges whether or not the
possible data arrangement range is within the range indicated
by said range information, and wherein the storage device
outputs whether or not the possible data arrangement range is
within the range indicated by the range information, as
required by claim 19.

Barnett also does not disclose a data processing system
having a source storage device including a copy-source storage
area and a destination storage device including a copy-
destination storage area, and having a memory storing possible
data arrangement range information for data stored in the
copy-source storage area and volume range information for the

copy-destination storage area, wherein the destination storage device transmits the volume range information to the source storage device, and the source storage device judges whether or not the range indicated by the possible data arrangement range information for the data in the copy-source storage area is within the range indicated the volume range information by referring to the possible data arrangement range information stored in the memory. Further, Barnett does not disclose that the source storage device transmits copy data to the destination storage device if the range indicated by the volume range information is within the range indicated by the possible data arrangement range information, as required by claim 21.

Kawamura, US 6,578,039 ("Kawamura") discloses a database management system in which multiple key ranges are correlated with multiple data storage areas provided in memory, for managing a given volume of data moved from the multiple data storages to a newly-added data storage.

However, Kawamura also does not relate to copying data from a source to a destination, with a judgment as to whether the data can be copied based on range information of the destination storage and a possible data arrangement range of the data. More particularly, Kawamura does not define a range

in which data can be arranged, define range information to
judge whether or not data to be stored can be arranged in a
storage area, judge whether or not the defined range is within
the range indicated by the defined range information, or
output whether or not the defined range is within the range
indicated by the range information, all as required by claim
1.

Further, Kawamura does not disclose a data processing
system that includes a first storage area for which a possible
data arrangement range of data stored therein is defined, and
a second storage area for which range information that is to
be judged for storing data is defined, wherein the data
processing system designates the first and second storage
areas and judges whether or not the possible data arrangement
range is within the range indicated by the range information,
and wherein the data processing system outputs whether or not
the possible data arrangement range is within the range
indicated by the range information, as required by claim 11.

In addition, Kawamura does not teach a storage device
that includes a first storage area for which the storage
device defines a possible data arrangement range of data
stored therein, and a second storage area for which the
storage device defines range information that is to be judged

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for storing data, wherein the storage device designates the
first and second storage areas and judges whether or not the
possible data arrangement range is within the range indicated
by said range information, and wherein the storage device
outputs whether or not the possible data arrangement range is
within the range indicated by the range information, as
required by claim 19.

Kawamura also does not disclose a data processing system
having a source storage device including a copy-source storage
area and a destination storage device including a copy-
destination storage area, and having a memory storing possible
data arrangement range information for data stored in the
copy-source storage area and volume range information for the
copy-destination storage area, wherein the destination storage
device transmits the volume range information to the source
storage device, and the source storage device judges whether
or not the range indicated by the possible data arrangement
range information for the data in the copy-source storage area
is within the range indicated the volume range information by
referring to the possible data arrangement range information
stored in the memory. Further, Kawamura does not disclose
that the source storage device transmits copy data to the
destination storage device if the range indicated by the

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volume range information is within the range indicated by the

possible data arrangement range information, as required by

claim 21.

Published U.S. Patent Application Publication Number

2003/0028737 to Kaiya, et al. ("Kaiya") shows a copying method

for copying data between logical disks according to a copy

instruction, in units of area division of the copy-source

logical disk. The copying process can be interrupted in

response to an access instruction.

However, Kaiya does not teach that access to a storage is

restricted based on range information of the storage and a

possible data arrangement range of the data to be copied.

More particularly, Kaiya does not define a range in which data

can be arranged, or range information to judge whether or not

data to be stored can be arranged in a storage area, as

defined in claim 1. Moreover, Kaiya does not judge whether or

not any such defined range is within the range indicated by

any defined range information, or output whether or not the

defined range is within the range indicated by the range

information, all as required by claim 1.

Further, Kaiya does not disclose a data processing system

that includes a first storage area for which a possible data

arrangement range of data stored therein is defined, or a

second storage area for which range information that is to be judged for storing data is defined, wherein the data processing system designates the first and second storage areas and judges whether or not the possible data arrangement range is within the range indicated by the range information. Necessarily, then, Kaiya does not teach a data processing system that outputs whether or not a possible data arrangement range is within a range indicated by range information as required by claim 11.

In addition, Kaiya does not teach a storage device that includes a first storage area for which the storage device defines a possible data arrangement range of data stored therein, and a second storage area for which the storage device defines range information that is to be judged for storing data, wherein the storage device designates the first and second storage areas and judges whether or not the possible data arrangement range is within the range indicated by said range information, and wherein the storage device outputs whether or not the possible data arrangement range is within the range indicated by the range information, as required by claim 19.

Finally, Kaiya also does not disclose a data processing system having a source storage device including a copy-source

storage area and a destination storage device including a
copy-destination storage area, and having a memory storing
possible data arrangement range information for data stored in
the copy-source storage area and volume range information for
the copy-destination storage area, wherein the destination
storage device transmits the volume range information to the
source storage device, and the source storage device judges
whether or not the range indicated by the possible data
arrangement range information for the data in the copy-source
storage area is within the range indicated by the volume range
information by referring to the possible data arrangement
range information stored in the memory. Further, Kaiya does
not disclose that the source storage device transmits copy
data to the destination storage device if the range indicated
by the volume range information is within the range indicated
by the possible data arrangement range information, as
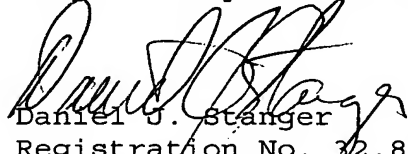required by claim 21.

Conclusion

The pre-examination search required by the MPEP "must be directed to the invention as claimed in the application for which special status is requested." MPEP §708.02 (VIII). The search performed in support of this Petition is believed to be reasonable; however, the Applicants make no representation that the search covered <u>every</u> search area that may contain relevant prior art. Prior art of greater relevance to the claims may exist. The Applicants urge the Examiner to conduct his or her own complete search of the prior art, and to thoroughly examine this application in view of the prior art cited above and any other prior art that may be located in the Examiner's independent search.

Further, while the Applicants have identified certain portions of each cited reference in order to satisfy the requirement for a "detailed discussion of the references, which discussion points out, with the particularly required by 37 C.F.R. §1.111(b) and (c), how the claimed subject matter is patentable over the references" (MPEP §708.02(VIII)), the Examiner should not limit review of these documents to the identified portions, but rather is urged to review and consider the entirety of each reference.

In conclusion, the Applicants submit that the foregoing discussion demonstrates the patentability of the claimed invention over the closest known prior art. Accordingly, the requirements of 37 CFR §1.102(d) having been satisfied, the Applicants request that this Petition be granted and that the application be examined according to prescribed procedures.

A Credit Card Payment Form in the amount of $130.00 was submitted with the Petition filed November 18, 2004, in satisfaction of the fee set forth in 37 CFR §1.17(h). It is believed that this Resubmitted Petition does not require an additional fee. However, the Commissioner is hereby to charge any additional payment due, or to credit any overpayment, to Deposit Account No. 50-1417.

Respectfully submitted,

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